

Pipe confined-space entry and gas testing - JSA - A

en-SG · Basic task controls · v1.0 · 2026-10-14 · Sources: article section 9

Site: | Item ID: | Work area:

Approval	Work supervisor	Technical reviewer	Release / handover authority

1. Job details and team signatures

Date / time	Location / area		Assessor		Supervisor	
Team signatures						

2. Conditions and hold points

Stage	Time	Location / area	Environment / readings	Item / condition	Controls	Plant / tools	Approval / signature
HP-0 Start							
HP-1 Isolate lines							
HP-2 Test atmosphere							
HP-3 Ventilate and permit							
HP-4 Close and hand over							

Complete after actual checks. Recheck after changes, defects or shift handover.

3. JSA risk assessment

Job stage	Hazards and effects	Failure factors	Technical and procedural controls	Site verification	P	S	R	A
1. Plan entry	1. Oxygen depletion 2. Toxic exposure 3. Restricted escape	1. Unknown service 2. Wrong boundary 3. Unmapped branches	1. Avoid entry first 2. Review service history 3. Map connected lines	1. Pipe identity 2. Task limits 3. SDS and drawings				
2. Isolate lines	1. Fluid ingress 2. Stored pressure 3. Unexpected motion	1. Passing valve 2. Hidden connection 3. Residual energy	1. Isolate all sources 2. Depressurise safely 3. Verify blind schedule	1. Isolation points 2. Zero energy evidence 3. Lock ownership				
3. Test atmosphere	1. Oxygen deficiency 2. Toxic gas pockets 3. Flammable mixture	1. Wrong sensor 2. Blocked sample hose 3. Short sample time	1. Test from outside 2. Check instrument response 3. Allow hose delay	1. Instrument identity 2. Sampling locations 3. Time and conditions				
4. Ventilate and permit	1. Residual gas 2. Exhaust ingress 3. Oxygen enrichment	1. Duct short circuit 2. Dirty intake air 3. Fan interruption	1. Use clean air 2. Reach work zones 3. Retest after purging	1. Air path 2. Power continuity 3. Retest record				
5. Stop and rescue	1. Rapid incapacitation 2. Secondary casualties 3. Entrapment at bends	1. Alarm ignored 2. Unplanned rescue entry 3. Snagged retrieval	1. Evacuate on alarm 2. Call planned rescue 3. No impulsive entry	1. Everyone accounted 2. Cause investigated 3. Rescue access ready				
6. Close and hand over	1. Person sealed inside 2. Tools left inside 3. Premature energising	1. Incomplete headcount 2. Uncontrolled de-isolation 3. Wrong gasket	1. Reconcile all exits 2. Inventory tools 3. Close to design	1. Physical headcount 2. Closure inspection 3. Permit cancellation				

P/S/R/A: Complete only after actual site assessment using the site risk method.

4. Pre-work checklist

☐ Pipe identity	☐ Isolation points	☐ Instrument identity
☐ Air path	☐ Everyone accounted	☐ Physical headcount
☐ SDS and drawings	☐ Retest record	☐ Permit cancellation